

DATE 3-6-87

TO	Gene Town	DEPT.	?	BLDG.	111
FROM	Doug Henderson	DEPT.	NISE	BLDG.	123

MESSAGE:

PHONE 7006

ROCKY FLATS PLANT

MEMORANDA

"SAY IT IN WRITING"

Subject Jan Pilechans on ceremonial First Shift  
Per your request to Gary Patten attached are  
my comments on subject.

CC. Gary Patten

America's Friend Son  
Jan Pilechans



SIGNATURE

RF-34700 (7/84)

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Fact Sheet: Incineration at RFP COMMENTS

P-1 P 1 Issue -- No State Emission standards for Pu etc  
true - but State does have ambient air  
 radioactivity concentration guide values for public  
 protection. Also EPA recently amended the  
 Clean Air Act and now regulates radioactive  
 emissions from DOE facilities (Don't use them  
 w/o talking to many Department Ext 7005).

P-1 P 1 Issue -- State doesn't monitor stacks  
true, but they review our stack data, and  
 conduct independent ambient air monitoring  
 on plant site and off plant site. State  
 organization do not do either commercial or  
 Gov. sampling of stacks - they review operators  
 parameters sampling techniques etc.

P-1 P 2 Issue --- nine incinerators with three in operation  
False RFP had eight incinerators  
 Bld 371 - two never used now torn out  
 Bld 701 - two R+D bench scale, no longer  
 in the building & no future plans  
 Bld 121 - one classified paper and film incinerator  
 no longer used except as back  
 up when shredder is down  
 Bld 771 one for special nuclear  
 recovery for Pu  
 Bld 776 two pilot & full scale FBI's

P-1 P 2

Issue -- 18 fold increase --

True . Permit modified fall 1985 to incinerate 40 Lbs / hr for 3 shift continuous operation. Former permit also was 40 Lbs / hr but not as many running hours. Efficiency requires hourly loading limit which was not changed.

P-1 P 6

Issue - Plutonium is not being incinerated during trial burn

False . Modified trial burn includes plutonium in concentrations expected during routine operations.

P-1 P 6

Issue --- Pu too dangerous to test ---  
False RFP was trying to accommodate States concern so no Pu now Pu is in the modified N/A. RFP doesn't think "It's too dangerous" Never did as filter systems will remove any Pu that doesn't remain with the ash.

P-1  
P 7

Issue tested under optimal conditions  
but what about long term operation etc.

State will set operational parameters  
with due consideration for the  
parameters mentioned in P6.

State will have inspection rights to  
operational records, inspections during  
operation etc. as a condition of  
the final operating permit.

P-1  
P 8

Issue --- will there be continuous monitoring ---  
yes for radioactive particulate Pu  
and U plus CO/CO<sub>2</sub> which indicates  
complete or incomplete incineration  
and effectiveness of destruction. NO  
there will not be monitoring for  
the unexpected.

P-1  
P 9  
continued on  
Page 2

Issue --- the permit doesn't indicate the  
highest concentration of radioactivity ---

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We say less than 100 mCi/gm  
for Pu. Final permit conditions  
may include upper limits.

Page 2 P1 cont.

Issue --- CDH + Public should be informed of amounts + kinds of waste ---

the trial burn plan has some details regarding waste types % of constituents etc.

Page 2 P2 (JMS)

Issue --- has CDH calculated emissions ---

No but they will as part of the permit review process

Page 2 P3 (JMS)

Issue what happens to heavy metals Pb Zn etc

majority will be in the ash rest will be filtered by HEPA's.

Issue what studies on effectiveness of filters.

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Lots, plus individual testing before use and testing when placed in use.

Jan P. Icher Conclusions

Gene Towne, we no comments the Bulls yours  
you serve !!

Dan/

## Fact Sheet: Incineration at Rocky Flats

### Background:

Incineration began in the 1950's at the Rocky Flats Plant, when depleted uranium was burned in open pits. Colorado Department of Health (CDH) documents indicate that an incinerator for plutonium-contaminated wastes has been operating since 1960 at the plant. In 1977 the CDH's Air Pollution Control Division began issuing emission permits for incinerators. No state emission standards exist for plutonium or any of its compounds, however, so the stacks are not monitored by the CDH for radioactive substances.

The Rocky Flats Plant has nine incinerators, with three currently in operation. Because the largest of these is classified as a plutonium recovery operation, it is not under the jurisdiction of the EPA or CDH as a hazardous waste disposal operation. Located in Building #771, it is permitted by the CDH to burn up to 168 tons per year (the equivalent of 336,000 pounds) of high-level radioactive-contaminated solids. A new permit approving an 18-fold increase in incineration (up from 22,000 to 336,000 pounds per year) for essentially continuous operation was issued in August 1985 to handle a backlog of radioactive hazardous waste material. Two other incinerators are used for burning classified documents and for lab operations.

### Proposed Test Burn for May 1987

The Department of Energy (DOE), owner of the Rocky Flats Plant, and Rockwell International, its manager, plan to conduct a 10-day trial burn of radioactive hazardous waste in May 1987. Two fluidized bed incinerators located in Building #776 will be used. The test will involve burning 900 pounds of liquid hazardous waste, including 81% diesel fuel and 19% carbon tetrachloride, an industrial solvent. It will also include 2,200 pounds of solid hazardous waste mixed with 0.17% uranium, 89.83% solid trash, and 10% carbon tetrachloride.

The Rocky Flats permit application indicates that the incinerator will destroy 99.9999% of the hazardous substances burned. Plutonium and uranium are not destroyed, however, and become plutonium and uranium oxide particles. The plant predicts removal of 99.97% of particulates, including radioactive ones, through a series of six HEPA filters.

If the results of this burn are approved by the CDH, which was recently given some authority over low-level mixed waste at the plant, the plant may be permitted to incinerate hourly up to 150 pounds of solid and 60 pounds of liquid mixed radioactive wastes in continuous operations.

### Problems with the Test Burn and Increased Incineration

1. Substances used in the trial burn should be representative of what will actually be burned during normal operations. Plutonium is not being incinerated in the trial burn, nor will there be any radioactive contamination in the liquid wastes burned in the test, although they will be burned in regular operations. The CDH has said the plant chose not to use plutonium during the test burn because "it is too dangerous," although Rocky Flats plans to burn large quantities of hazardous waste contaminated with plutonium once normal incineration would begin.

2. A test burn is conducted under optimal conditions. But what kinds of calculations have been made about long-term operations with aging equipment, non-standard conditions, uneven burning, and variations in temperature, turbulence, and residence time -- which could result in incomplete combustion and increased emission of pollutants?

3. Once regular operations begin, will there be continuous monitoring for the concentrations of radioactive gases and particulates from the stacks? Direct, continuous sampling of emissions from the stacks would also ascertain if there are unexpected by-products.

4. The permit application does not indicate the highest concentrations of radiation in material

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that will be incinerated. Nor does it estimate the amount of radioactive air emissions from the incinerator stack. The CDH and public should be informed of the precise amounts and kinds of substances to be burned on an annual basis.

5. Has the CDH calculated the cumulative concentrations of greater radioactive emissions from Rocky Flats, even when individual stacks and incinerators meet EPA and NRC guidelines?

6. What happens to heavy metals, such as plutonium and uranium, that are not destroyed in the incineration process? What studies have adequately examined this area and the effectiveness of the filtering system for removing radioactive substances?

7. Has a worst-case scenario been developed for incineration in full operations? Is there a possibility of a major malfunction or of an explosion and release of materials?

8. What kinds of studies have been produced on atmospheric dispersion of hazardous waste incineration emissions? This is of particular concern at Rocky Flats, because winds blow predominantly south and southeast towards the large metropolitan Denver population.

9. What are the credentials and relevant experience of CDH personnel evaluating this permit? Experts in incineration and medical doctors, as well as qualified persons with advanced degrees in radiobiology, radiochemistry, and radiophysics should be hired, if necessary, to properly evaluate this proposal.

10. What studies have been done on human health and environmental effects as a result of hazardous mixed waste incineration? This information is critical because of the close proximity of a major metropolitan population to a large-scale incineration project.

#### Conclusions

\*This permit application heralds a shift in disposal practices of the DOE from ground burial to incineration and may lead to enormous increases in incineration in the future at Rocky Flats.

\*Both the trial burn and any increased incineration at the Rocky Flats Plant are ill-conceived and poorly documented. If the DOE cannot produce solid facts, figures, and published research from non-DOE sources to substantiate its claims, then no further incineration should take place.

\*Because no such large-scale continuous incineration of hazardous radioactive wastes has been embarked upon before, Denver residents are in the unfortunate position of being a test population for the long-term health effects of subtle, daily releases of radioactive contamination. The situation is made more serious by the fact that plutonium, one of the most lethal substances on earth, has a half-life of 24,000 years and can cause cancer and genetic defects in quantities as small as one millionth of an ounce.

\*Denver-metro residents should not have to bear an increased burden to their health and environment because of the DOE's negligence over 35 years in disposing of its hazardous and radioactive wastes. The plant maintains that it is more cost-effective to incinerate radioactive hazardous wastes on-site and safer than trucking them elsewhere for disposal. This cost-benefit equation should also include the costs to the health of the people of metropolitan Denver, and in the absence of that information, there should be no further incineration. Disposal via incineration should be conducted at a remote, unpopulated site, and the DOE should bear the cost and trouble of transporting the wastes there.

Public comments on the trial burn must be submitted by March 6 to Peter Bierbaum, Hazardous Materials and Waste Management Division, Colorado Department of Health, 4210 E. 11th Ave., Denver, CO 80222. Also write Governor Romer and CDH Director Dr. Tom Vernon.